

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: THE SPECIFICATION AND DRAWINGS

The specification has been amended to address the Examiner's objections to the drawings on pages 2 and 3 of the Office Action.

In addition, the abstract has been amended to better comply with the requirements of MPEP 608.01(b), as required by the Examiner.

The specification has also been amended to correct some minor informalities of which the undersigned has become aware.

With respect to the objection to the terms "geometric properties" and "geometric property format" in item 6 on page 4 of the Office Action, moreover, the Examiner is respectfully referred to, for example, the disclosure at paragraph [0145] of the publication (US 2005/0179710) of the present application, as well as in Expressions 1 and 14 with respect to "geometric property format," and the Examiner is respectfully referred to the disclosure at, for example, paragraphs [0162], [0246] to [0252] and [0322] with respect to "geometric properties." In view of this disclosure, it is respectfully submitted that the meaning of the terms "geometric properties" and "geometric

property format" would be clear to one of ordinary skill in the art.

No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered, and that the objections to the specification and drawings be withdrawn.

RE: THE CLAIMS

Claims 24 and 48 have been amended to be written in independent form, as well as to clarify that the at least one of a reference point and a reference vector are determined such that the sum of squares of the difference becomes minimum, based on (now canceled) claim 25.

Claim 40 has been amended to address the Examiner's objection set forth in item 7 at the bottom of page 4 of the Office Action. It is respectfully submitted, moreover, that the objection to claim 48 has been addressed by amended claim 48 to put it in independent form.

New independent claim 56 has been added based on the subject matter of (now canceled) claim 14 rewritten in independent form as a "system" claim. Claim 56, like claims 24 and 48, recites that the sum of squares of the difference becomes minimum.

In addition, the claims have also been amended to make some minor grammatical improvements and/or to correct some minor

antecedent basis problems so as to put them in better form for issuance in a U.S. patent.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered, and that the objections to the claims be withdrawn.

It is respectfully submitted, moreover, that amended independent claims 24 and 48, and new independent claim 56, all clearly patentably distinguish over the prior art of record, taken singly or in any combination, under 35 USC 102 as well as under 35 USC 103.

In more detail, the system according to amended independent claim 24 comprises analyzing means for determining at least one of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between: the predetermined positions of the plurality of marks in the chart image created by the image pickup means, and the predetermined positions of the plurality of marks based upon the geometric property format stored in the format storage means.

In addition, the method of amended independent claim 48 comprises an analyzing step for determining at least one of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes

minimum between the predetermined positions of the plurality of marks in the chart image formed in the image picking-up step and the predetermined positions of the plurality of marks based upon the geometric property format stored in the format storing step.

Still further, the system of new independent claim 56 comprises an analyzing unit for determining at least one of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between the predetermined positions of the plurality of marks in the chart image formed in the image picking-up unit and the predetermined positions of the plurality of marks based on the geometric format stored in the format storing unit.

By contrast, it is respectfully submitted that Komiya et al discloses that a geometry conversion such as affine transformation is performed to perform a geometric correction, but does not refer to determining at least one of a reference point and a reference vector such that the sum of squares of the difference becomes minimum as according to the present invention as recited in amended independent claims 24 and 48 and new independent 56.

With this structure, by determining the at least one of the reference point and the reference vector "such that the sum of squares of the difference becomes minimum" it is possible to more

accurately analyze geometrical characteristics. In Komiya et al, however, because geometric correction is performed using the affine transformation based on parallel moving amount and rotation amount of the geometric correction chart, a change in length of the unit vector cannot be calculated and thus Komiya et al is incapable of sufficiently performing geometric correction. By contrast, by determining at least one of the reference point and the reference vector such that the sum of squares of the difference becomes minimum in the manner of the claimed present invention, it is possible to calculate not only the direction of the unit vector and the moving amount of the origin but also conversion of the length of the unit vector, thus allowing more accurate geometric correction.

It is respectfully submitted, moreover, that none of the other cited references are any more pertinent than Komiya et al.

Accordingly, it is respectfully submitted that amended independent claims 24 and 48 and new independent claim 56, and all of the claims respectively depending therefrom, clearly patentably distinguish over the prior art of record, under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

Application Serial No. 10/509,485
Response to Office Action

Customer No. 01933

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

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